The Spectrum of the Companion to α Scorpii*

Several spectrograms of the 7th magnitude companion of *Antares* were secured on June 26, 1921, with the spectrograph at the Cassegrain focus of the 100-inch Reflector. With seeing 6 the images of the two stars were well separated on the slit and there was no trace of the spectrum of the bright M-type star on the plates. The photographs show that the spectrum of the companion is of early Helium type, estimated B3. The lines are wide and hazy and unsuitable for accurate measurement. The H and K lines of calcium are somewhat more sharply defined than the other lines.

This system is of particular interest both because the principal star is one of the brightest of the late-type, low-density giants, and on account of the suggestion of Russell that it belongs to the *Scorpius* group of B type stars.

The parallax as indicated by its parallactic motion as a member of the *Scorpius* group is about 0″.009, corresponding to absolute magnitude −4.0 for the brighter star and +1.9 for the fainter. Our estimates from the spectrum give to the brighter −2.7, which would correspond to +3.2 for the fainter. In either case the companion is intrinsically faint for a star of its spectral class.

The companion is 3″.2 distant, but has shown no certain change in position relative to the bright star in the 70 years since its discovery. It undoubtedly has the same proper motion. We have no direct method of estimating the masses, but they may both be large, with the two components separated by a distance of some 300 astronomical units. This is the first case which has come to our attention of an M type giant with an early B type visual companion.

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Note on the Spectrum of R Cygni*

This star is one of a group of long-period variables, exemplified by R *Andromedae*, whose spectra belong neither to Class M nor to Class N, but which have been compared by Miss Cannon to the peculiar star π^1 *Gruis*. Some stars of this type were first classified at Harvard as Md 1 or Md 2, but since they do not exhibit the bands characteristic of Class M, this designation was objectionable and has been dropped. On objective prism photographs of small dispersion the appearance of these spectra somewhat resembles the